



QUARTERLY GROUNDWATER MONITORING REPORT (DECEMBER 2002)

**HAWLEY AUTO BODY AND PAINT
2902 LYTTON STREET
SAN DIEGO, CA 92110**

**UNAUTHORIZED RELEASE
FILE No. H12948-002**

PREPARED BY:

**D-MAX ENGINEERING, INC.
8380 MIRAMAR MALL, SUITE 227
SAN DIEGO, CA 92121
TEL: (858) 455-9988
FAX: (858) 455-9978**

January 17, 2003
Project No. 200116H

Dr. Nasser Sionit
Site Assessment and Mitigation Program
County of San Diego
Department of Environmental Health Services
1255 Imperial Avenue, 3rd Floor
P.O. Box 129261
San Diego, CA 92112-9261

**Re: Quarterly Groundwater Monitoring Report
Hawley Auto Body and Paint
Unauthorized Release File No. H12948-002
2902 Lytton Street
San Diego, CA 92110**

Dear Dr. Sionit:

On behalf of our client, Hawley Auto Body and Paint, D-MAX Engineering, Inc, (D-MAX) is submitting the attached Quarterly Groundwater Monitoring Report. This work was conducted on December 30 and 31, 2002, in accordance with the County of San Diego's letter dated November 7, 2002 and the submitted workplan dated November 20, 2002.

If you have any questions regarding this report, please do not hesitate to contact me.

Sincerely,
D-MAX Engineering, Inc.

Arsalan Dadkhah, Ph.D., P.E.
Project Manager

cc: Mr. Don Hawley, Hawley Auto Body and Paint

TABLE OF CONTENTS

SECTION	PAGE
SITE DESCRIPTION	1
MONITORING WELL PURGING AND SAMPLING	1
GROUNDWATER SAMPLE ANALYSIS	2

Formatted

TABLES

1 - Monitoring Wells and Groundwater Elevations, December 2002	3
2 - Quarterly Groundwater Sample Analytical Results	4
3 - Summary of Groundwater Sample Analytical Results, Years 2000 – 2002	5

FIGURES

- 1 - Monitoring Well Locations
- 2 - Groundwater Gradient Map

ATTACHMENTS

- A - Groundwater Sampling Data Sheets
- B - Laboratory Analyses Reports

SITE DESCRIPTION

The site is located at 2902 Lytton Street, San Diego, California, approximately 200 feet southeast of Rosecrans Street (Figure 1). This site is bounded on the south by Lytton Street and on the west by an AM/PM mini-mart and Loma Carwash. To the east side of the site is a motorcycle shop, and to the north of the site are apartments and single-family residential properties. A review of the 1975 U.S. Geological Survey (USGS) 7.5 Minute Quadrangle, Point Loma, California topographic map indicates that the site lies at an elevation of approximately 40 feet above mean sea level (MSL).

Currently, there are nine groundwater monitoring wells at the site. Based on the workplan submitted on November 20, 2002, these monitoring wells will be sampled on a quarterly basis for a period of one year. The wells have been sampled previously under a separate workplan between February 2000 and February 2002; however, the County requested an additional year of quarterly monitoring. This report presents the results of sampling from the first quarter of this monitoring, which was performed in December 2002

MONITORING WELL PURGING AND SAMPLING

On December 30 and 31, 2002, a round of sampling was conducted at the site. Wells MW-1 through MW-9 were purged, and groundwater samples were collected and submitted to an analytical laboratory. The purging started with measuring the depth to groundwater at each well. The depth to groundwater ranged from 21.28 feet below ground surface (bgs) at monitoring well MW-9 to 28.75 feet bgs at monitoring well MW-1. Table 1 presents the elevations of the monitoring wells and groundwater elevations that were measured. The results of the groundwater elevation were used to develop a groundwater contour map shown in Figure 2. The groundwater flow direction was calculated to the east with an approximate average gradient of 0.0017 ft/ft.

For each well the borehole's volume was calculated by using the instructions outlined in Section 5 of the 2002 SAM Manual. Having previously determined the recharging characteristic of the wells, the purging process began. An electrical water pump was used to discharge groundwater from the mentoring wells. The discharged groundwater was poured into 55-gallon drums on-site to be disposed of at a later time.

Groundwater removal from each well took place in different steps. At first, one borehole volume of water was removed, and its pH, temperature, electrical conductance, and depth of water were measured. At the second attempt, one-half borehole volume of water was removed, and a similar field water quality measurement was conducted. If the measured change of pH and conductivity was greater than 10 percent of previous readings, the process was repeated for an additional one-half borehole volume of water. The process was repeated until the measured change of pH and conductivity were less than 10 percent of the previous measurements. The field data sheets that were used to record this process are included in Appendix A.

Groundwater samples were collected when the water table recovered 80 percent. Samples were collected with disposable bailers then transferred into 40 ml glass containers and an amber bottle, labeled, stored in an icebox, and submitted to EnviroMatrix Analytical Laboratory.

GROUNDWATER SAMPLE ANALYSIS

Nine sets of groundwater samples (one set for each monitoring well) were collected. No free product was observed at any of the monitoring wells. Samples were analyzed for total petroleum hydrocarbons (TPH) at full carbon range in general accordance with Modified EPA Method 8015, as well as for benzene, toluene, ethylbenzene, and total xylene (BTEX), T-butyl alcohol (TBA), D-isopropyl ether (DIPE), ethyl T-butyl ether (ETBE), T-amyl methyl ether (TAME) and methyl T-butyl ether (MTBE) in general accordance with EPA Method 8260B. The majority of all contaminants that were detected have decreased in concentrations since the previous monitoring in February of 2002. The results of the analyses are presented in Table 2. The laboratory reports are included in Appendix B. A summary of all existing and previous groundwater analyses conducted for monitoring wells MW-1 through MW-9 are presented in Table 3.

TABLE 1
MONITORING WELLS AND GROUNDWATER ELEVATIONS
DECEMBER 2002

Well Location	Top of Casing Elevation¹ (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-1	100	28.75	71.25
MW-2	97.50	26.34	71.16
MW-3	97.15	25.935	71.21
MW-4	94.08	22.95	71.13
MW-5	97.46	26.35	71.11
MW-6	97.02	25.88	71.14
MW-7	98.65	27.42	71.23
MW-8	97.25	26.025	71.22
MW-9	92.22	21.28	70.94

Notes:

¹ Based on an arbitrary datum of 100 feet at the top of monitoring well MW-1

TABLE 2
QUARTERLY GROUNDWATER SAMPLE ANALYTICAL RESULTS

Water samples collected by D-Max Engineering and tested by EnviroMatrix in December 2

All concentrations in µg/l									
Sample Location	TPHg ¹	TPHd ¹	Benzene ²	Ethyl-Benzene ²	Toluene ²	Total Xylene ²	MTBE ³	TBA ⁴	DIP ⁵
MW-1	22.0	nd ⁸	nd	nd	nd	nd	99.1	nd	nd
MW-2	12,000	nd	1,280	640	3,370	2,446	nd	nd	nd
MW-3	4,900	nd	nd	159	nd	346.8	nd	nd	nd
MW-4	nd	nd	nd	nd	nd	nd	nd	nd	nd
MW-5	2,400	nd	206	102	292	399	nd	nd	nd
MW-6	17,200	nd	497	346	1,550	1,309	58.5	nd	nd
MW-7	4,100	nd	2.02	30.7	nd	20.24	nd	nd	nd
MW-8	1,300	nd	nd	2.18	nd	nd	nd	nd	nd
MW-9	nd	nd	nd	nd	nd	nd	nd	nd	nd

Notes:

- ¹ TPH = Total petroleum hydrocarbons in general accordance with Modified EPA Method 8015B
- ² Benzene, ethylbenzene, toluene and total xylene analyzed in general accordance with EPA Method 8260B
- ³ MTBE = Methyl T-butyl Ether analyzed in general accordance with EPA Method 8260B
- ⁴ TBA = Tert-Butyl Alcohol analyzed in general accordance with EPA Method 8260B
- ⁵ DIPE = DI-Isopropyl Ether analyzed in general accordance with EPA Method 8260B
- ⁶ ETBE = Ethyl Tert-Butyl Ether analyzed in general accordance with EPA Method 8260B
- ⁷ TAME = Tert-amyl methyl Ether analyzed in general accordance with EPA Method 8260B
- ⁸ nd = Not detected within the limits of the analytical method used

TABLE 3
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
YEARS 2000, 2001 AND 2002
All concentrations in µg/l

Sample Location	Sampling Date	TPHg ¹	Benzene ²	Ethylbenzene ²	Toluene ²	Total Xylene ²	MTBE ³
MW-1	2/25/00	nd ⁴	0.9	nd	nd	2.5	79.6
	2/5/01	430	nd	nd	nd	nd	364
	5/14/01	609	nd	nd	nd	nd	347
	8/20/01	31	nd	nd	nd	nd	409
	11/12/01	nd	nd	nd	nd	nd	458
	02/18/02	135	nd	nd	nd	nd	395
	12/30/02	22.0	nd	nd	nd	nd	99.1
MW-2	2/25/00	83,200	5,930	1,940	13,800	8,890	833
	2/5/01	62,000	4,870	1,750	10,200	9,360	nd
	5/14/01	14,600	2,130	nd	3,600	4,410	nd
	8/21/01	53,100	2,450	942	4,760	4,620	nd
	11/13/01	94,500	3,110	1,250	7,500	5,160	nd
	02/19/02	73,000	3,490	1,310	8,150	6,550	nd
	12/31/02	12,000	1,280	640	3,370	2,446	nd
MW-3	2/25/00	8,240	19	38	342	1,270	94
	2/5/01	7,000	nd	330	nd	742	nd
	5/14/01	106	nd	nd	nd	nd	nd
	8/21/01	12,500	nd	222	nd	561	nd
	11/12/01	2,430	nd	39.3	nd	37.9	nd
	02/19/02	9,200	nd	165	nd	340.5	nd
	12/31/02	4,900	nd	159	nd	346.8	nd
MW-4	2/25/00	nd	nd	nd	nd	nd	nd
	2/5/01	nd	nd	nd	nd	nd	nd
	5/14/01	nd	nd	nd	nd	nd	nd
	8/20/01	nd	nd	nd	nd	nd	nd
	11/12/01	nd	nd	nd	nd	nd	nd
	02/18/02	nd	nd	nd	nd	nd	nd
	12/30/02	nd	nd	nd	nd	nd	nd
MW-5	2/5/01	13,100	1,620	421	1,650	2,300	nd
	5/14/01	726	19.9	nd	1.10	260.6	19.6
	8/21/01	9,280	522	168	593	763	16.1
	11/13/01	14,300	708	263	927	990	20.7
	02/19/02	5,400	232	78.4	314	394	nd
	12/31/02	2,400	206	102	292	399	nd
MW-6	2/5/01	28,900	990	868	4,080	4,050	nd
	5/14/01	6,880	85.0	nd	nd	2,205	70
	8/21/01	41,300	1,420	845	4,290	2,760	124
	11/13/01	23,700	654	521	1,870	1,315	93.0
	02/19/02	24,000	642	464	1,430	1,355	97.2
	12/31/02	17,200	497	346	1,550	1,309	58.5
MW-7	2/5/01	6,180	4.2	nd	nd	168	3.7
	5/14/01	1,090	2.4	nd	nd	20.3	nd
	8/21/01	17,800	3.9	121	2.0	83.8	nd
	11/12/01	11,600	1.3	38.2	nd	14.0	nd
	02/18/02	5,600	nd	18.6	1.0	9.3	nd
	12/31/02	4,100	2.02	30.7	nd	20.24	nd

TABLE 3
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
YEARS 2000, 2001 AND 2002
All concentrations in µg/l

Sample Location	Sampling Date	TPHg ¹	Benzene ²	Ethylbenzene ²	Toluene ²	Total Xylene ²	MTBE ³
MW-8	2/5/01	1,050	nd	nd	nd	19.7	2.3
	5/14/01	97.0	nd	nd	nd	nd	nd
	8/20/01	2,960	nd	11.7	nd	2.3	nd
	11/12/01	5,830	nd	36.3	nd	4.3	nd
	02/18/02	1,890	nd	7.1	1.1	1.1	nd
	12/30/02	1,300	nd	2.18	nd	nd	nd
MW-9	3/12/01	nd	nd	nd	1.1	nd	nd
	5/14/01	nd	nd	nd	nd	3.4	nd
	8/20/01	nd	nd	nd	nd	nd	nd
	11/12/01	nd	nd	nd	nd	nd	nd
	02/18/02	nd	nd	nd	nd	nd	nd
	12/30/02	nd	nd	nd	nd	nd	nd

Notes

¹ TPH = Total petroleum hydrocarbon (in gasoline range) in general accordance with Modified EPA Method 8015

² Benzene, toluene, ethylbenzene and total xylene analyzed in general accordance with EPA Method 8260B

³ MTBE = Methyl T- butyl Ether analyzed in general accordance with EPA Method 8260B

⁴ nd = Not detected within the limits of the analytical method used

ATTACHMENT A

GROUNDWATER SAMPLING DATA SHEETS

ATTACHMENT B

LABORATORY ANALYSES REPORTS
